

Conf.dr.ing. Roxana Rusu-Both

Nr.crt.	Titlu lucrare	Scurta descriere	Cerinte	Nivel (licenta/master)
1	Machine Learning in Autonomous Driving – in collaboration with Bosch	Data processing. Data augmentation techniques implementation. Control system development. Testing and Validation	Data processing, Data Augumentation techniques, Machine Learning, Programming	Licenta
2-5	Industrial process control – in collaboration with Emerson (including available experimental stands)	Process modeling and identification. Control system design and implementation. Testing and Validation	Control engineering, DeltaV	Licenta si Master
6	Control solutions for Self-balancing motorcycle	Experimental set-up design and implementation. Process modeling and identification. Control system design and implementation. Testing and Validation	Control engineering, mathematics, electronics, programming	Licenta
7	Control solutions for Spider robot	Experimental set-up design and implementation. Process modeling and identification. Control system design and implementation. Testing and Validation	Control engineering, mathematics, electronics, programming	Licenta
8	Computer aided diagnosis system for lung cancer – in collaboration with UMF	Medical Criteria evaluation algorithm development. Diagnosis system development. Testing and Validation	Image processing, Machine Learning, Programming	Licenta si Master
9	Computer aided diagnosis system for fybrosis – in collaboration with UMF	Medical Criteria evaluation algorithm development. Diagnosis system development. Testing and Validation	Image processing, Machine Learning, Programming	Licenta si Master
10-11	Computer aided system for	Medical Criteria evaluation	Image processing, Machine Learning,	Licenta si Master

	identification of metastatic lymph nodes – in collaboration with UMF	algorithm development. Diagnosis system development. Testing and Validation	Programming	
12-13	EEG Signal Analysis for Disease Diagnosis	EEG data acquisition. Feature extraction. Diagnosis system development. Testing and Validation	Data acquisition, Signal Processing, Machine Learning, Programming	Licenta si Master
13-14	EEG Signal Processing Methods for Brain Computer interface (including automotive field)	EEG data acquisition. Feature extraction. Diagnosis system development. Testing and Validation	Data acquisition, Signal Processing, Machine Learning, Programming	Licenta si Master
15	EMG Signal Processing for prosthetic control	EMG data acquisition. Feature extraction. Control system design and implementation. Testing and Validation	Data acquisition, Signal Processing, Machine Learning, Programming	Licenta si Master
16-17	Assistive autonomous robots	Various topics for autonomous robots that assist disabled persons or perform specific tasks. Experimental set-up design and implementation. Control system design and implementation. Testing and Validation.	Control engineering, mathematics, electronics, programming	Licenta
18	Automation robot for class scheduling application	Design and implementation of automation robots for class scheduling application.	Machine Learning, Programming	Licenta
19-20	Automation solutions for Smart Homes (healthier lives): example air quality	Various topics for user centric Smart home systems. Experimental set-up design and implementation. Control system design and implementation. Testing and Validation.	Electronics, Control engineering, Programming	Licenta